

**Emergency Management Guidelines for Individuals in Schools with
an Unknown History of Anaphylaxis or Severe Allergic Reactions**

**Department of Health and Mental Hygiene
Maryland State Department of Education
Maryland State School Health Council**

**MARYLAND STATE SCHOOL HEALTH
SERVICES GUIDELINES**

**Emergency Management Guidelines for Individuals in Schools with
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Introduction

Students and staff with an unknown history of allergies may experience anaphylaxis or severe allergic reactions in school or during school-sponsored events. Anaphylaxis is a medical emergency that requires immediate medical attention and can be fatal if not reversed within seconds or minutes of coming in contact with an allergen such as an insect sting or bite, food, nuts, latex, medications, and other allergens. Anaphylaxis may also be idiopathic or exercise induced. The symptoms normally appear within one to 15 minutes and progress rapidly. However, in some cases the symptoms may be delayed up to one hour of coming into contact with the allergen and has been known to occur up to several hours later.

Epinephrine injection is the treatment for anaphylaxis. Each individual with a known history of anaphylaxis or severe allergies should have a child specific emergency action plan and an individual auto-injector epinephrine available in school (See the *Nursing Appraisal/Assessment of Students with Special Health Needs Guidelines*).

Since individuals with an unknown history of anaphylaxis do not have an individual order from a health care provider directing school health staff how to respond, **each local school system (LSS) must determine if schools will have auto-injector epinephrine available for individuals without a known history of anaphylaxis or severe allergic reactions.** This will require the local school health services program to have a **physician directed nursing protocol.** While standing orders are not allowed in the school setting, a nursing protocol signed by a physician and a nursing supervisor that outlines the procedures for administering epinephrine is acceptable and required.

Purpose

To provide guidelines for school health staff to manage individuals with an unknown history of anaphylaxis or severe allergic reactions who experience anaphylaxis or severe allergic reactions in school or at school-sponsored events. These guidelines provide a basis for the development of policies and procedures related to the emergency care of these individuals since they will not have an individual order from a health care provider directing school health staff how to respond.

Definitions:

- **Anaphylaxis** is a life-threatening, acute systemic (whole body) type of allergic reaction. It occurs when a person has become sensitized to a certain substance or allergen (that is, the immune system has been abnormally triggered to recognize that allergen as a threat to the body). On the second or subsequent exposure to the substance, an allergic reaction occurs. This reaction is sudden, severe, and involves the whole body.

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- **Acute** means sudden or severe. Symptoms appear, change, or worsen rapidly. The opposite of chronic.
- **Systemic** means, "affecting the entire body," rather than a single organ or body part.
- **Allergic reactions** are sensitivities to a specific substance, called an allergen that is contacted through the skin, inhaled into the lungs, swallowed, or injected.
- **Allergens** are substances that can cause an allergic reaction. Allergens are substances that the immune system recognizes as "foreign" or "dangerous" in some people, but cause no response for most people.

Signs & symptoms related to anaphylaxis may include:

- Uneasiness and agitation;
- Facial flushing;
- Rapid pulse, palpitations, thready or unobtainable pulse;
- Generalized itching / tingling/ rash;
 - Swelling of face, lips, tongue, and/or eyelids;
- Blue or gray color around the lips or nail beds;
- Dizziness;
- Throbbing in the ears;
- Difficulty breathing, coughing and/or wheezing;
- Nausea, vomiting;
- Fall in blood pressure; and
- Fainting, unresponsiveness.

It is important to note that not all signs and symptoms need to be present in anaphylaxis.

Management of anaphylaxis or severe allergic reactions

An epinephrine injection is the treatment for anaphylaxis. It is a quick-acting hormone that works against all of the physiological aspects of anaphylaxis and should be administered intramuscularly. Use of the auto-injector epinephrine is recommended since it does not require manipulation of a syringe or measurement of a dosage. The following steps should be taken to respond to anaphylaxis or severe allergic reactions:

- Rapidly assess airway, breathing, and circulation (ABCs) and begin cardio pulmonary resuscitation (CPR) as necessary.
- Some local school health programs may opt to use Benadryl. If that is the case, the next step is to immediately administer **liquid diphenhydramine** (Benadryl) according to the

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following dosages:

(Do not give anything by mouth if the individual is unconscious or unable to swallow).

Under 66 pounds (30kg) - 10 cc (25 mg)

Over 66 pounds (30kg) - 20 cc (50 mg)

- **If any throat, heart, lung or CNS symptoms are present or develop, administer epinephrine IMMEDIATELY.**
- Select auto-injector epinephrine dose and administer intramuscularly as follows:
 - Under 66 pounds (30 kg) - Use auto-injector Epinephrine Junior (0.15 mg)
 - Over 66 pounds (30 kg) - Use auto-injector Epinephrine Adult (0.3 mg)
- Directions for use of Auto-Injector Epinephrine:
 1. Pull off safety cap.
 2. Make sure thumb or fingers do not contact tip of auto-injector.
 3. Apply injector directly against the thigh, but may be administered through clothing, if necessary.
 4. Place black tip on thigh at right angle to leg. Always give in the antero-lateral aspect of the thigh (outside of the mid-thigh).
 5. Press firmly into the thigh until the auto-injector mechanism functions, and hold in place for 10 seconds.
 6. Remove the injector and discard in a biohazard container.
 7. Massage the injected area for 10 seconds.
- **Call 911 after giving epinephrine and notify dispatcher that an anaphylactic reaction has occurred and that paramedics are needed to provide and continue administration of epinephrine.**

SPECIAL NOTE: ANYONE RECEIVING EPINEPHRINE MUST BE TRANSPORTED TO A HOSPITAL BY PARAMEDICS TO CONTINUE MEDICAL CARE.

- **Give nothing by mouth.**
- **If severe symptoms of anaphylaxis persist over 10 minutes, give the individual an additional injection using auto-injector epinephrine as follows:**
 - Under 66 pounds (30 kg) - Give auto-injector epinephrine (0.15 mg)
 - Over 66 pounds (30 kg) - Give auto-injector epinephrine (0.30 mg)

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- **There are no absolute contraindications to the use of epinephrine in a life-threatening situation.**
- Place student in a recovery (side-lying) position. Elevate legs. Loosen restrictive clothing. Make student comfortable, relaxed, and assist to keep calm.
- **Observe and record pulse, respiration, blood pressure, or signs of circulation, skin color, and mental status every 5 minutes until EMS arrives. Stay with the student until 911 personnel arrive and accept care responsibilities.**
- **Notify parent/guardian/ or emergency contact if staff member or other school employee.**
- **Complete documentation of the incident, including the time of administration of epinephrine, the suspected precipitating cause, 911-notification time and parent notification.**
- Send documentation of episode, including vital signs, interventions and student's/staff member's identifying information to the hospital with EMS personnel. Maintain a copy of the documentation for the student's health record or employee file.
- Upon returning to school, instruct parent/guardian to have the student report to health suite to ensure placement of an emergency plan/protocol.
- If parent/guardian has not done so, inform the parent/guardian that the student's primary health care provider will be notified about the anaphylactic reaction and the suspected cause. Follow-up with the health care provider to verify the student's sensitivity to any suspected allergen. Follow guidelines for Emergency Management of Students in Schools with Known History of Anaphylaxis or Severe Allergic Reaction.

School Nurse Responsibilities

After an individual has been identified as having anaphylaxis or severe allergic reactions:

- Develop a written emergency protocol for the management of anaphylaxis.
- Formulate with the principal a predetermined plan for the administration of auto-injector epinephrine in the school nurse's absence.
- Train, monitor, supervise, and evaluate the individuals delegated to administer auto-injector epinephrine to ensure they are fully capable of carrying out the task (Maryland Nurse Practice Act.). The training should include:
 1. Awareness of signs and symptoms of an anaphylaxis or severe allergic reaction;

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2. Proper use and administration an auto-injector epinephrine; and
 3. Follow emergency protocol/plan;
- Place the written emergency protocol and auto-injector epinephrine in a secure location immediately accessible to all designated school personnel.
 - **Protect the auto-injector epinephrine from light and high temperatures.**
 - **Routinely check expiration dates of the auto-injector epinephrine.**